

## REMARKS

The foregoing amendments and the following remarks are responsive to the Office Action mailed October 21, 2003. Applicants respectfully request reconsideration of the present application.

Claims 1-51 are pending. Claims 1, 36, 37, 42, and 46-51 are amended. New claims 52-56 have been added. Therefore, claims 1-56 are presented for examination.

Applicants appreciate the Examiner's careful examination, and renumbering of the claims. The claims presented herein are as renumbered by the Examiner. The Applicant has changed the claim dependencies correspondingly. These changes indicated as claim amendments. However, the change in claim numbering is not indicated as claim amendments, since that was done by the Examiner.

The Applicants have further amended the drawings, to correctly refer to Fixed Storage using reference number 166, as referenced in the Specification, for example on Page 26, paragraph 2.

Examiner rejected claims 1-13, 17-19 under 35 U.S.C. §102(e) as being unpatentable over U.S. Patent No. 6,067,383 issued to Taniguchi, et al. Taniguchi describes a coding method, coding apparatus, wavelet transform apparatus, and wavelet reverse transform apparatus for using wavelet transforms with image data. However, Taniguchi does not teach or suggest organizing the bands into a plurality of layers suitable for progressive transmission to a target device, each layer comprising two-dimensional data covering every pixel of the image. Taniguchi does use the term "layer" however Taniguchi explains the layers as follows:

The image data 1 representing the original image is subjected to color separation by the color separation means 2, whereby the image data 1 is separated into a plurality of color components. Then, each color component is divided into a plurality of layers of frequency components (subbands) by the wavelet transform means 3, and each layer (subband) is quantized by the quantization means 4 and coded by the variable-length

coding means 5, whereby code data for each color and each layer is obtained.

(Column 13, lines 9-19). Thus, the “layers” of Taneguchi actually correspond to the subbands of wavelet compression. On the other hand, the layers referenced by the present invention comprising two-dimensional data covering every pixel of the image, rather than a color component frequency subband. Taneguchi does not teach or suggest organizing the bands (subbands) into layers where each layer comprises two dimensional data covering every pixel of the image. Taneguchi does not teach or suggest organizing bands into layers, where each layer comprises two-dimensional data. Rather, the “layers” of Taneguchi are the separate bands referenced in claim 1. As Applicants get to define their own terminology, Applicants respectfully submit that the layers of Taneguchi do not correspond to the layers referenced in the present application.

Claim 1, as amended, recites:

A method for storing and transmitting image data between occasionally-connected devices, the method comprising:  
capturing an image at a sensor of a first device;  
storing the image as image data in a memory of the first device;  
separating the image data into separate color planes, according to a particular color space;  
transforming each of the planes into separate bands, based on frequency information present in each plane;  
quantizing each band of each of the planes to a particular bit depth;  
coding each band of each of the planes for compressing the image data;  
based on quality and resolution provided by each band at a certain bit depth, organizing the bands into a plurality of layers suitable for progressive transmission to a target device, each layer comprising two-dimensional data covering every pixel of the image; and  
upon connection of the first device to a second device, transmitting a selected one of said plurality of layers from the first device to the second device.

(Claim 1, as amended, emphasis added). As noted above Taneguchi does not teach or suggest organizing bands into layers, where each layer comprises two-dimensional data. Rather, the “layers” of Taneguchi are the separate bands referenced in claim 1. As Applicants get to define their own terminology, Applicants respectfully submit that

the layers of Taneguchi do not correspond to the layers referenced in claim 1.

Therefore, claim 1, and claims 2-13 and 17-19 are not anticipated by Taneguchi.

Examiner rejected claims 14-16 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,067,383 issued to Taniguchi, et al. in view of U.S. Patent No. 5,761,655 issued to Hoffman. Hoffman discusses an image file storage and retrieval system. The thumbnail images, where dominant colors are displayed. Hoffman does not teach or suggest separating the image into layers, where each layer comprises two dimensional data. Therefore, Hoffman does not remedy the shortcomings of Taniguchi, and claims 14-16 are not obvious over Taniguchi in view of Hoffman.

Examiner rejected claims 20-24, 28-35 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,067,383 issued to Taniguchi, et al. in view of U.S. Patent No. 5,880,856 issued to Ferriere, et al. Ferriere discusses transferring images in blocks, in which "Within each decomposition level, rows of the various sub-images are arranged or interlaced together in contiguous blocks, so that all data for a single row, at a single decomposition level, is transmitted together" (Ferriere, Abstract). Ferriere does not have layers, where each layer comprises two-dimensional data. Rather, the layers of Ferriere are "". (Ferriere, column X, line Y). Therefore, Ferriere teaches away from the present invention. Therefore, even in combination, Taniguchi and Ferriere do not make obvious claim 1, and therefore claims 20-24 and 28-35 which depend on it and incorporate its limitations.

Examiner rejected claims 25-27 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,067,383 issued to Taniguchi, et al. in view of U.S. Patent No. 5,880,856 issued to Ferriere, et al. and in further view of U.S. Patent No. 6,615,224 issued to Davis. Davis discusses a high performance file undelete. Davis does not address image transfer at all, and is from a non-analogous art. Therefore, one of skill in the art would not look to Davis to solve the file transfer problem. Furthermore, Davis does not teach or suggest organizing data into layers which comprise two-dimensional

data. Therefore, Davis does not overcome the shortcomings of Taniguchi in view of Ferriere, discussed above. Thus, claims 25-27 are not obvious over Taniguchi, in view of Ferriere and Davis.

Examiner rejected claims 36-46 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,067,383 issued to Taniguchi, et al. in view of U.S. Patent No. 5,880,856 issued to Ferriere, et al. and in further view of U.S. Patent 6,615,224 issued to Davis and in further view of U.S. Patent No. 5,761,655 issued to Hoffman.

Claim 36, as amended, recites:

A method for storing and transmitting image information for an image from a source device to a target device, the method comprising:  
partitioning said image information at the source device into a plurality of layers, based on resolution and quality criteria, each layer corresponding to a two-dimensional array representing the entire image;  
storing directory information for the image at the source device  
allowing access to individual ones of said plurality of layers;  
when the first device is initially connected to the target device,  
transmitting attribute information for the image;  
transmitting at least some of the directory information to the target device, to allow the target device to control uploading of said image information; and  
under control of said target device, transmitting selected ones of said plurality of layers from said source device to said target device.

(Claim 36, as amended). As noted above, none of the references teach or suggest "partitioning the image information into a plurality of layers, each layer corresponding to a two-dimensional array representing the entire image." Therefore, claim 36, and claims 37-46 which depend on it, are not obvious over Taniguchi, Ferriere, Davis, and Hoffman.

Examiner rejected claims 47-51 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,067,383 issued to Taniguchi, et al. in view of U.S. Patent No. 5,880,856 issued to Ferriere, et al. and further in view of U.S. Patent No. 6,615,224 issued to Davis.

A system providing a file format optimized for transmission of information between intermittently-connected devices, the system comprising:  
a memory for storing image data;  
logic for partitioning said image data into successive layers, wherein each successive layer stores information that permits rendering of the entire image at increasingly higher resolution and/or increasingly higher quality;  
logic for storing said successive layers in a file format, said file format comprising:  
a plurality of records, each record storing information for a single layer, and  
a directory for accessing a record of a layer that is to be uploaded to a destination device; and  
logic allowing a destination device to control uploading of successive layers to the destination device.

(Claim 47, as amended, emphasis added). As discussed above, none of the references teach or suggest each layer storing information that permits rendering of the entire image and increasingly higher quality. Rather, Ferriere, the only reference which discusses such layers, provides layers which are rows only, and do not permit the rendering of the entire image with increased resolution or quality. Therefore, claim 47, and claims 48-51 which depend on it, are not obvious over the references.

Examiner rejected claim 48 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,067,383 issued to Taniguchi, et al. in view of U.S. Patent No. 5,880,856 issued to Ferriere, et al. in further view of U.S. Patent No. 6,615,224 issued to Davis and in further view of U.S. Patent No. 5,761,655 issued to Hoffman. As discussed above, none of these references teach or suggest partitioning the data into a plurality of layers, each layer storing information that permits rendering of the entire image and increasingly higher quality. Therefore, claim 48 is not obvious over the references.

Examiner rejected claim 50 under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,067,383 issued to Taniguchi, et al. in view of U.S. Patent No. 5,880,856 issued to Ferriere, et al. in further view of U.S. Patent No. 6,615,224 issued to Davis and in further view of U.S. PG-PUB 2001/0049693 issued to Pratt. Pratt

discusses mapping binary objects in database management. Pratt does not address image transfer at all, and is from a non-analogous art. Therefore, one of skill in the art would not look to Pratt to solve the file transfer problem. Furthermore, Pratt does not teach or suggest organizing data into layers which permits rendering of the entire image and increasingly higher quality. Therefore, Pratt does not solve the shortcomings of Taniguchi, Ferriere, and Davis discussed above. Therefore, claim 50 is not obvious over the combination of references.

Examiner rejected claims 1-5 under 35 U.S.C. §102(e) as being unpatentable over U.S. Patent No. 6,154,493 issued to Acharya, et al. Acharya discusses compression of color images based on a 2-dimensional discrete wavelet transform yielding a perceptually lossless image. The Examiner references column 6, lines 17-19 of Acharya for the limitation of "organizing the bands into a plurality of layers suitable for progressive transmission to a target device." The referenced section of Acharya reads:

The compressed and encoded image data 240 may be efficiently stored channel by channel and sub-band by sub-band (see FIG. 4). Thus, the compressed and encoded channels (R-G1), G1, G2 and (B-G2) may be separately decoded and decompressed.

(Acharya, column 6, lines 17-21). This portion of Acharya does not teach or suggest organizing the bands into a plurality of layers suitable for progressive transmission to a target device, each layer comprising two-dimensional data covering every pixel of the image, but rather uses conventional wavelet encoding, in which the subbands, covering a single color plane is stored together. Therefore, Acharya does not anticipate claim 1, and claims 2-5 which depend on it.

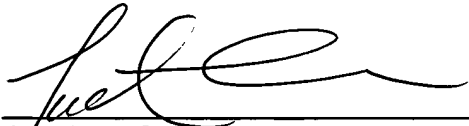
In view of the foregoing amendments and remarks, Applicants respectfully submit that all pending claims are in condition for allowance. Such allowance is respectfully requested.

If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully requested to contact Judith A. Szepesi at (408) 720-8598.

If there are any additional charges, please charge Deposit Account No. 02-2666.

Respectfully submitted,

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